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星点设计-效应面法优选白鲜皮超声提取工艺

Study on the Extraction of Dictamni Cortex with Ultrasonic Wave Technology Optimized by Central Composite Design and Response Surface Method

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英文关键词: [Dictamni Cortex](#) [dictamine](#) [central composite design](#) [response surface method](#)

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中文摘要:

目的 采用星点设计-效应面法优选白鲜皮的提取工艺。方法 以乙醇浓度、提取时间和乙醇量为自变量, 白鲜碱含量和浸膏得率为因变量, 通过自变量的总评归一值进行多元线性回归和二项式拟合, 采用效应面法优选最佳的工艺条件。结果 确定超声波法提取白鲜皮的最佳工艺条件为乙醇浓度: 85%~95%; 提取时间80~90 min; 料液比1:15~1:20。结论 该实验提取工艺方法简便, 预测值与实际值吻合度高。

英文摘要:

OBJECTIVE To optimize the extracting process of Dictamni Cortex by central composite design and response surface method. METHODS Independent variables were ethanol concentration, time for ultrasound extraction and solvents ratio, dependent variables were the overall desirability of the extraction rate of dictamine and the extract yields. Linear or nonlinear mathematic models were used to estimate the relationship between independent and dependent variables. Response surface methodology was used to optimize the process of extraction. RESULTS The optimal conditions of extraction process were determined as follows: the materia medica was ultrasound extracted for 80-90 min with 15-20 fold solvent of 85%-95% ethanol. CONCLUSION The optimum process is simple and convenient for extracting Dictamni Cortex. The observed values are consistent with the predicted ones.

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